OIPE JC100
JUN 21 2004
PATENT & TRADEMARK OFFICE

Fig.1

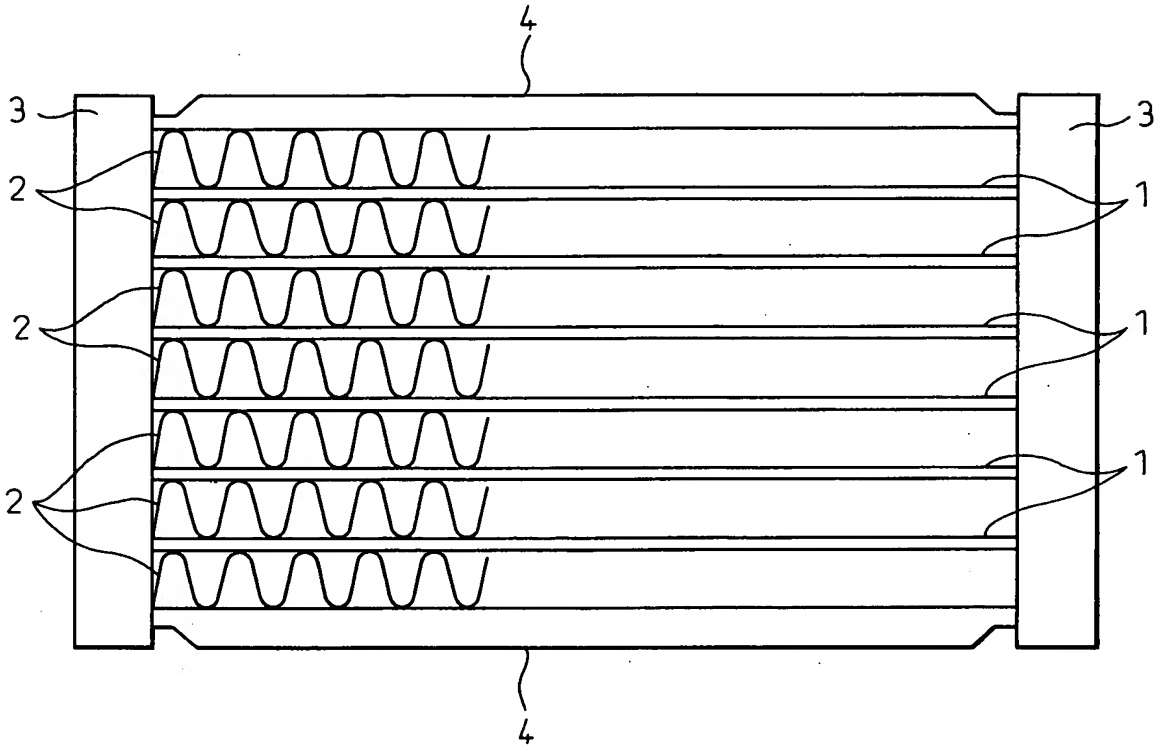


Fig.2A

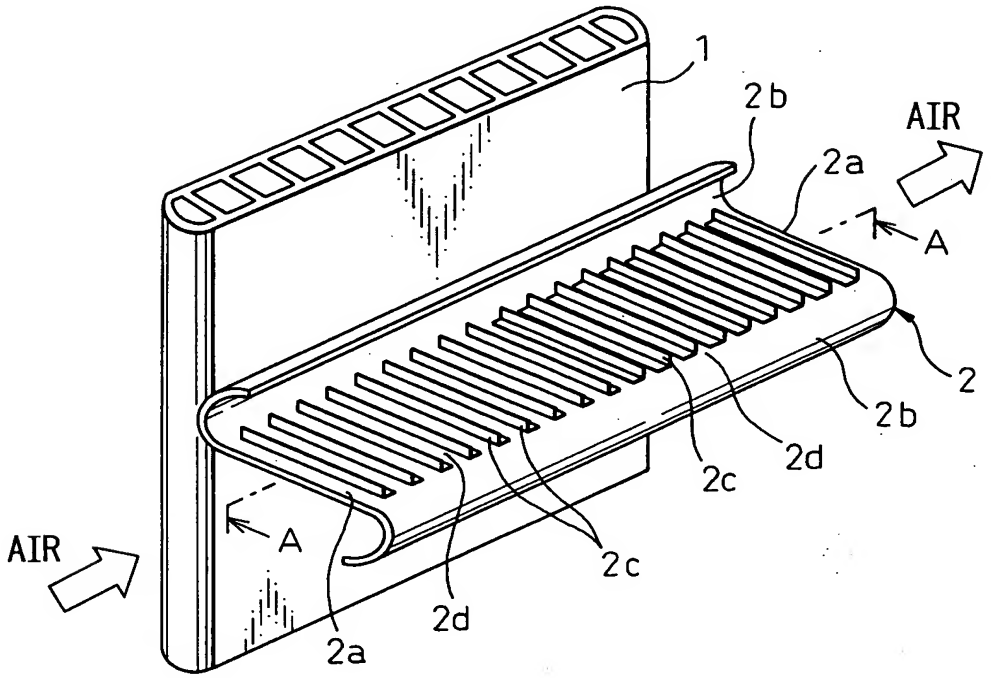

1
2b
AIR
2a
A
2
2b
2c
2d
2c
2d
2a
A
AIR

Fig.2B

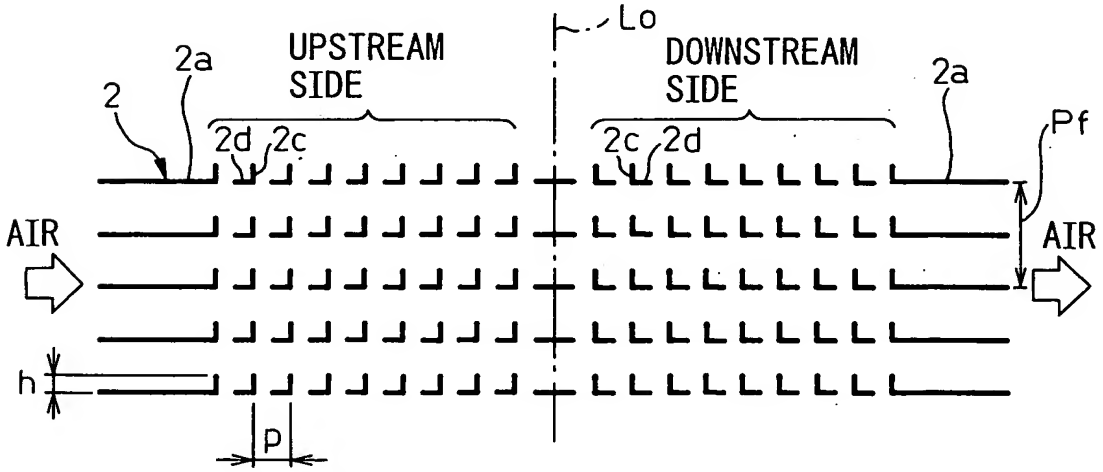

Lo
2a
UPSTREAM SIDE
DOWNSTREAM SIDE
2a
2
2d
2c
2c
2d
Pf
AIR
AIR
h
P

Fig.3

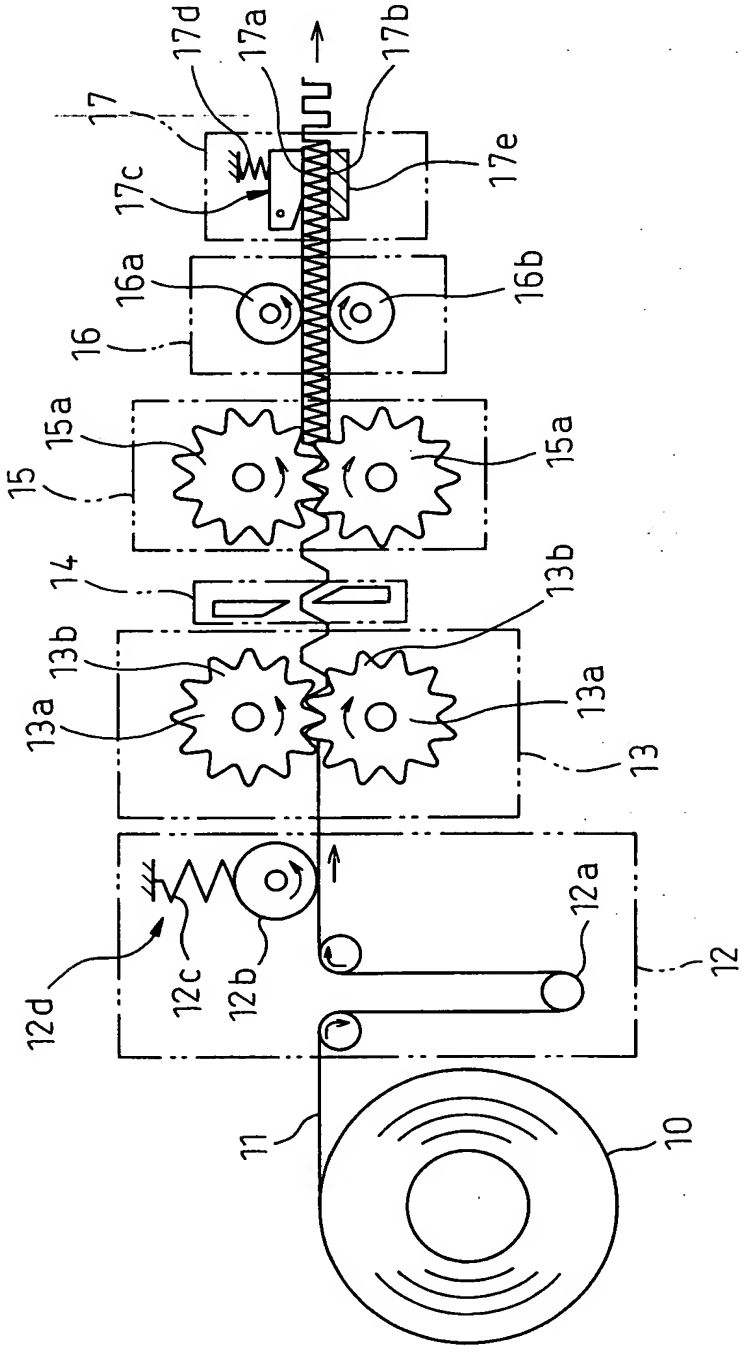

17d
17a
17b
17
17e
17c
16a
16b
16
15a
15a
15
14
13b
13b
13a
13a
13
12a
12
12d
12c
12b
11
10

Fig.4

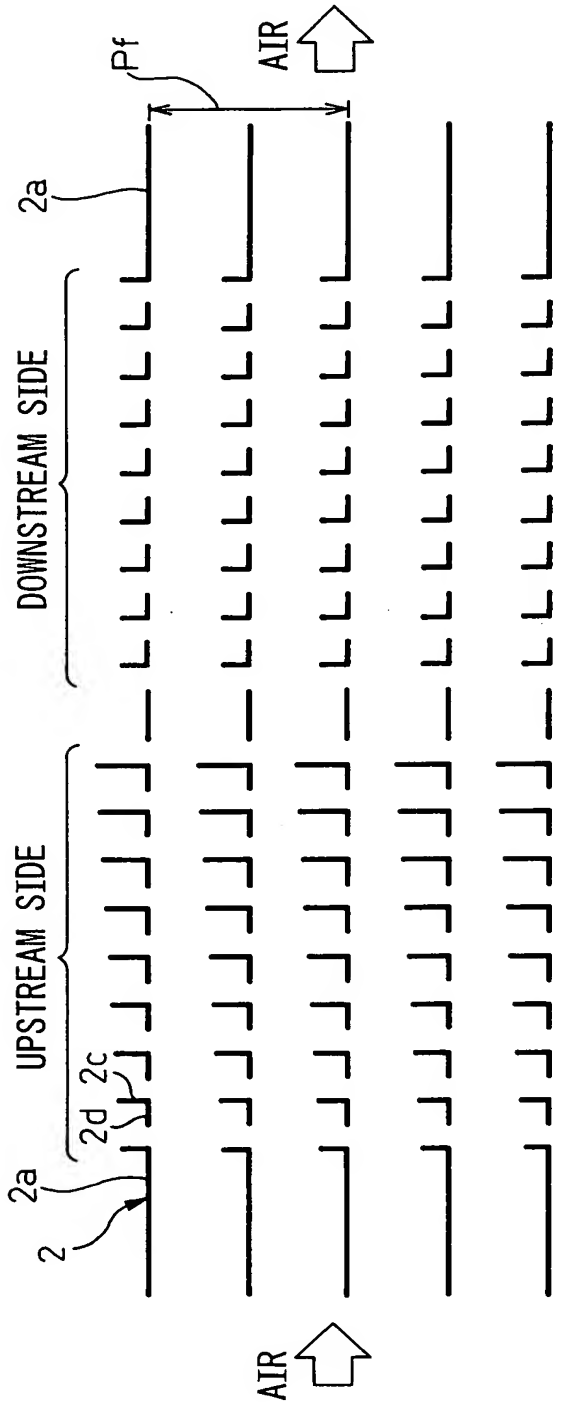
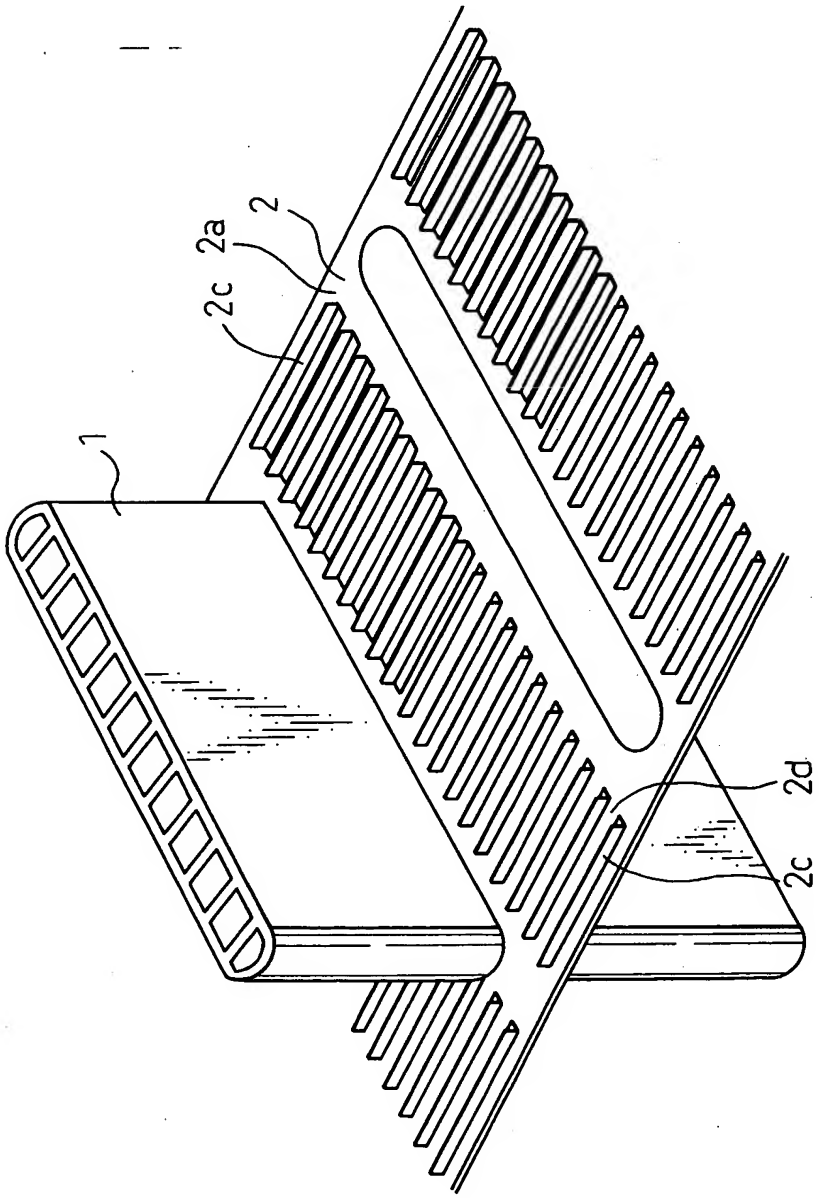


Fig.5



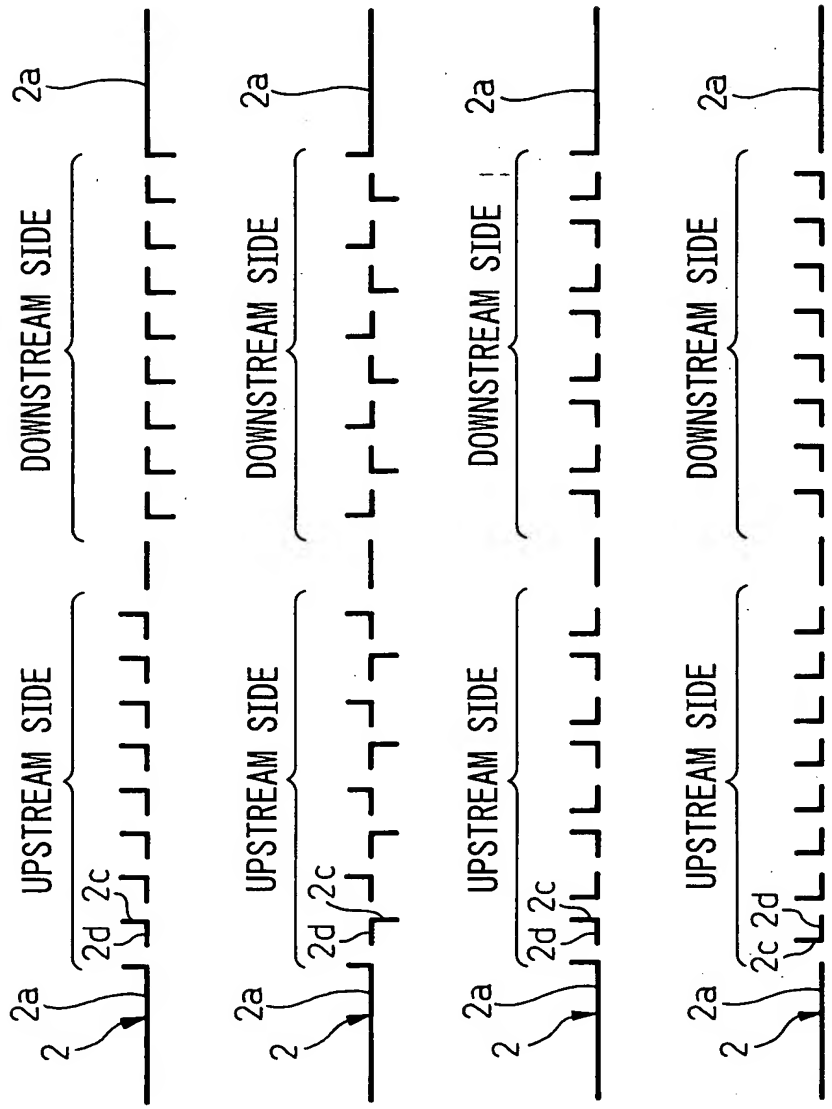


Fig.6A

Fig.6B

Fig.6C

Fig.6D

Fig. 7

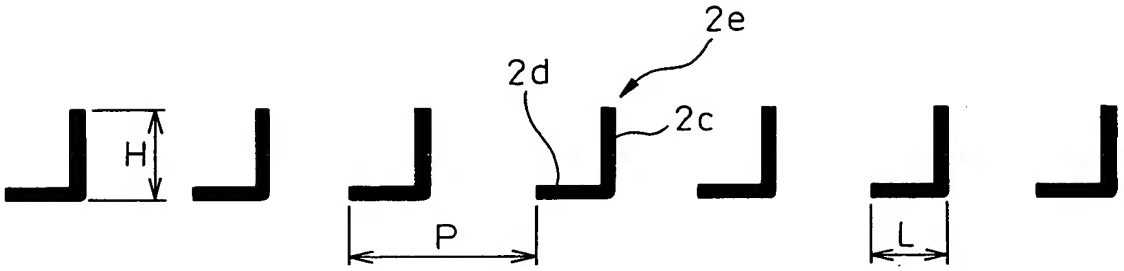

2e
2d
2c
H
P
L

Fig. 8

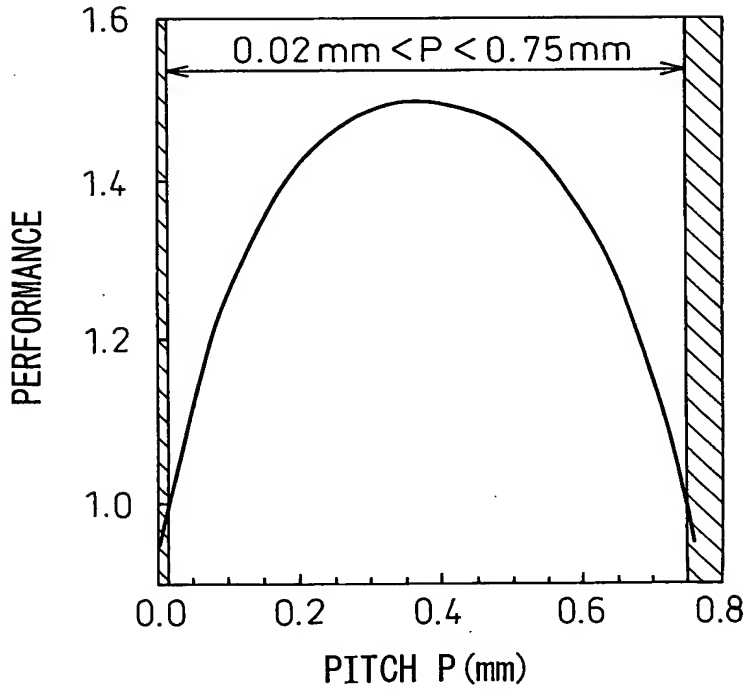

1.6
1.4
1.2
1.0
0.02mm<P<0.75mm
PERFORMANCE
0.0
0.2
0.4
0.6
0.8
PITCH P(mm)

Fig.9

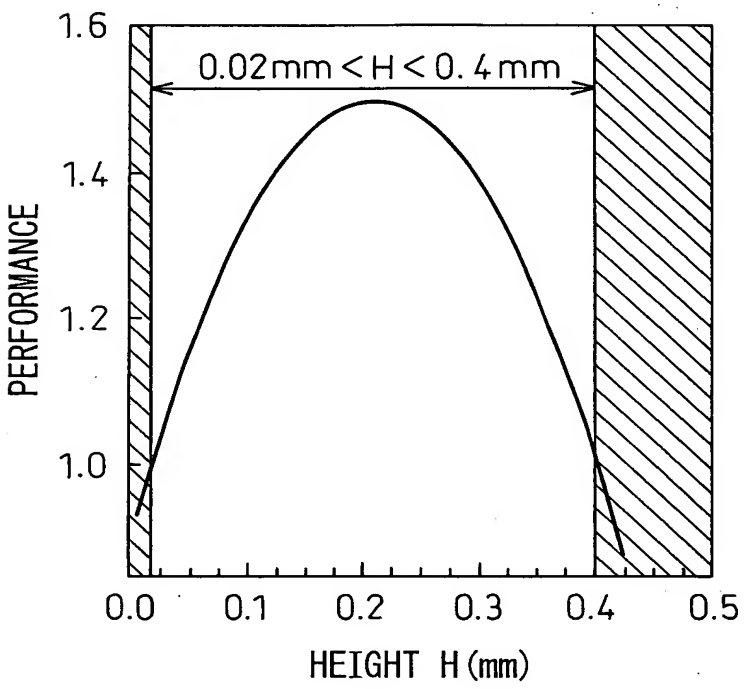

1.6
1.4
1.2
1.0
PERFORMANCE
0.02mm < H < 0.4mm
0.0
0.1
0.2
0.3
0.4
0.5
HEIGHT H (mm)

Fig.10

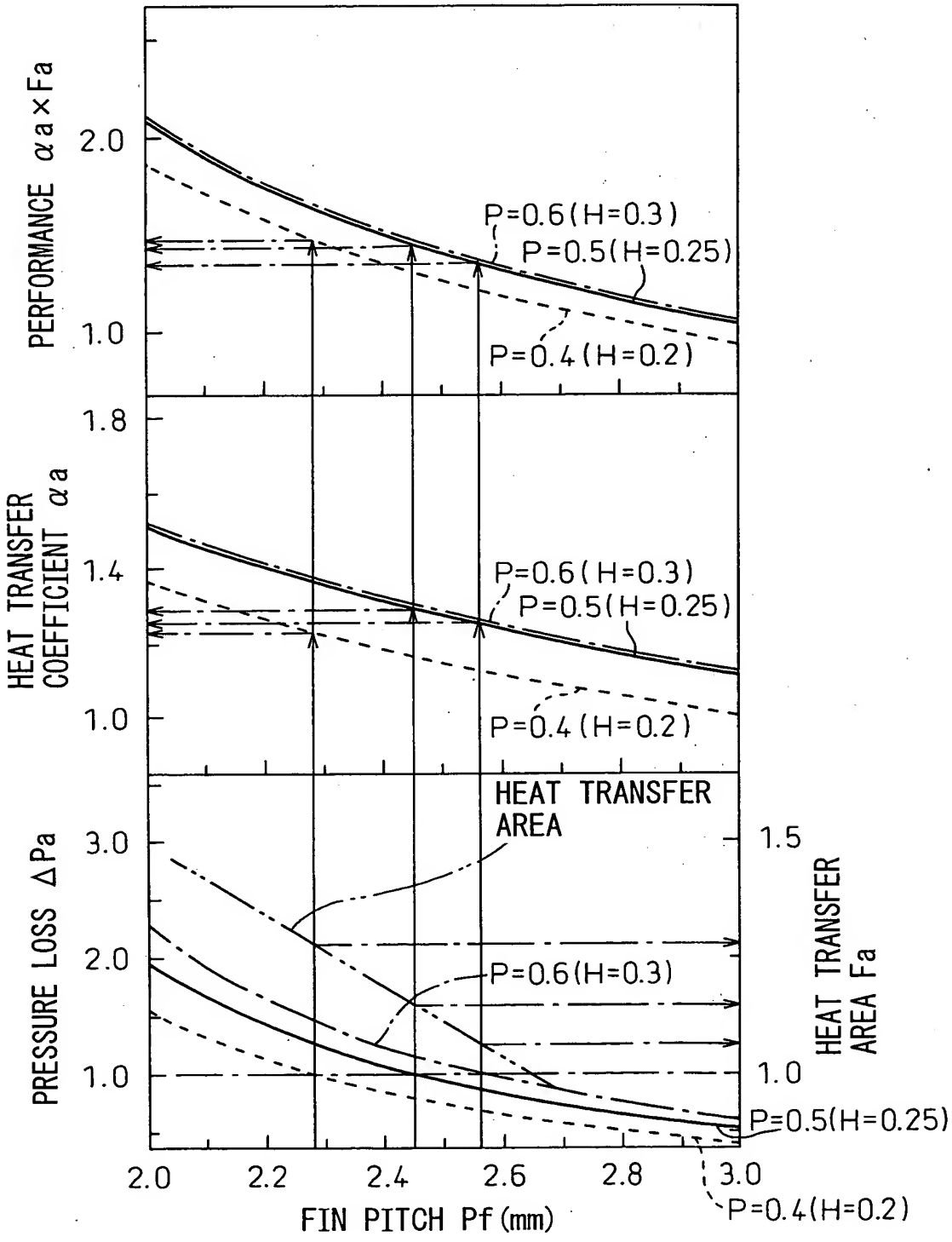

PERFORMANCE αa×Fa
2.0
1.0
P=0.6(H=0.3)
P=0.5(H=0.25)
P=0.4(H=0.2)
HEAT TRANSFER COEFFICIENT αa
1.8
1.4
1.0
P=0.6(H=0.3)
P=0.5(H=0.25)
P=0.4(H=0.2)
PRESSURE LOSS ΔPa
3.0
2.0
1.0
HEAT TRANSFER AREA
P=0.6(H=0.3)
P=0.5(H=0.25)
P=0.4(H=0.2)
HEAT TRANSFER AREA Fa
1.5
1.0
2.0
2.2
2.4
2.6
2.8
3.0
FIN PITCH Pf(mm)

Fig.11

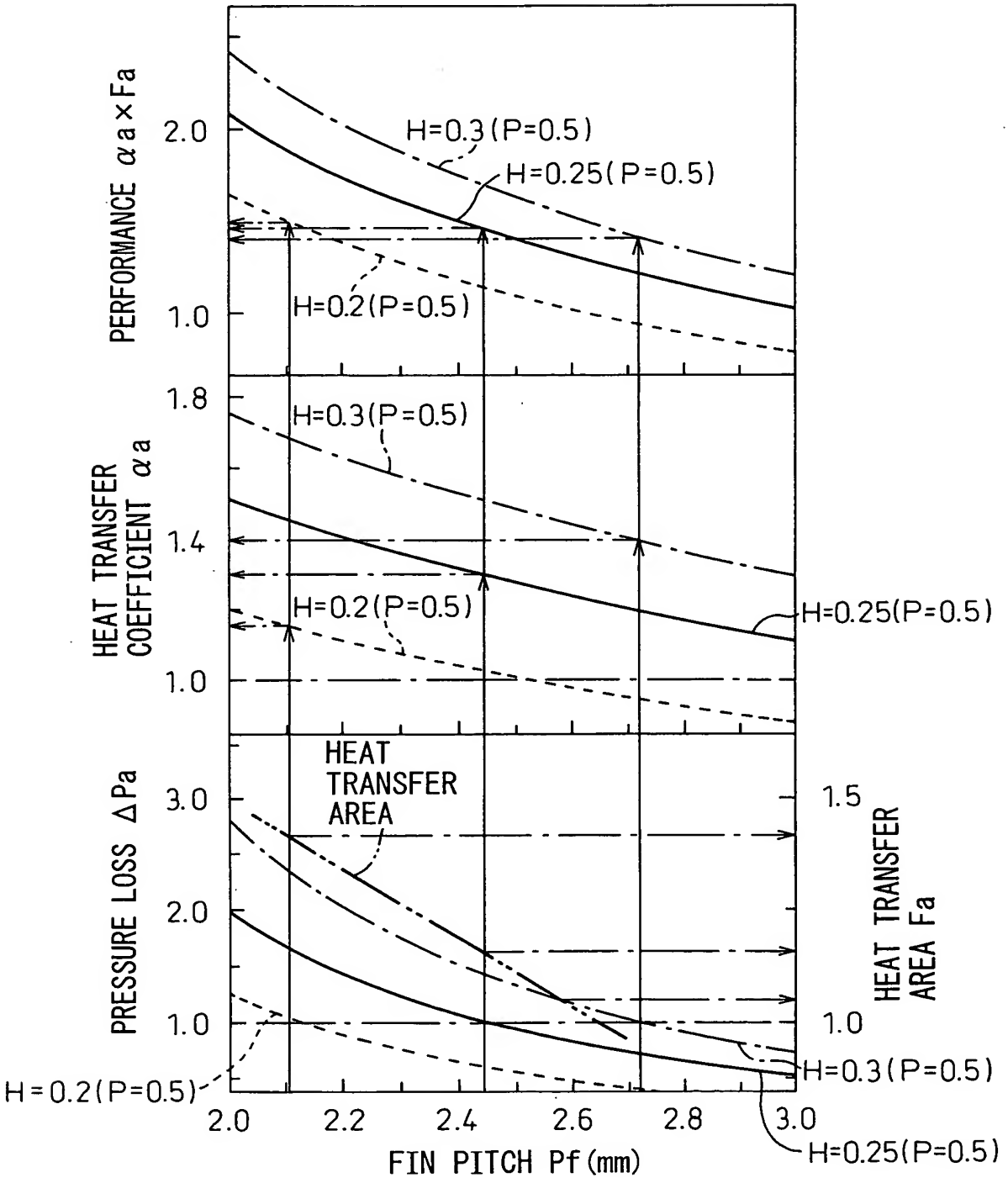

PERFORMANCE αa×Fa
2.0
1.0
H=0.3(P=0.5)
H=0.25(P=0.5)
H=0.2(P=0.5)
HEAT TRANSFER COEFFICIENT αa
1.8
1.4
1.0
H=0.3(P=0.5)
H=0.2(P=0.5)
H=0.25(P=0.5)
PRESSURE LOSS ΔPa
3.0
2.0
1.0
HEAT TRANSFER AREA
1.5
1.0
HEAT TRANSFER AREA Fa
H=0.2(P=0.5)
H=0.3(P=0.5)
H=0.25(P=0.5)
2.0
2.2
2.4
2.6
2.8
3.0
FIN PITCH Pf(mm)

Fig.12

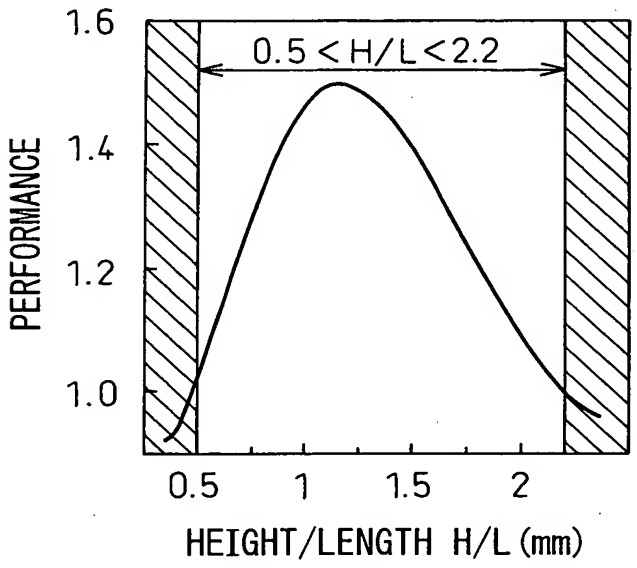


Fig.13A

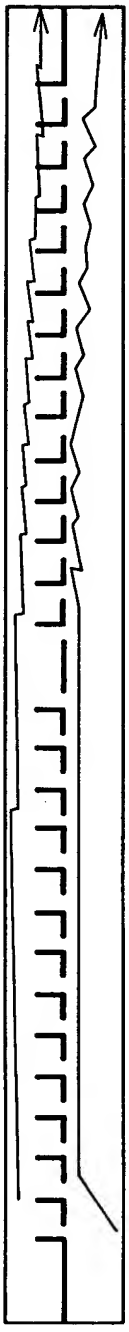
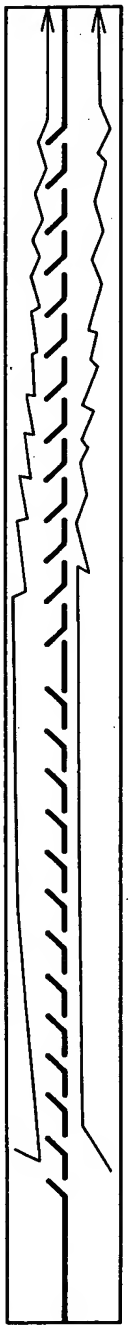


Fig.13B



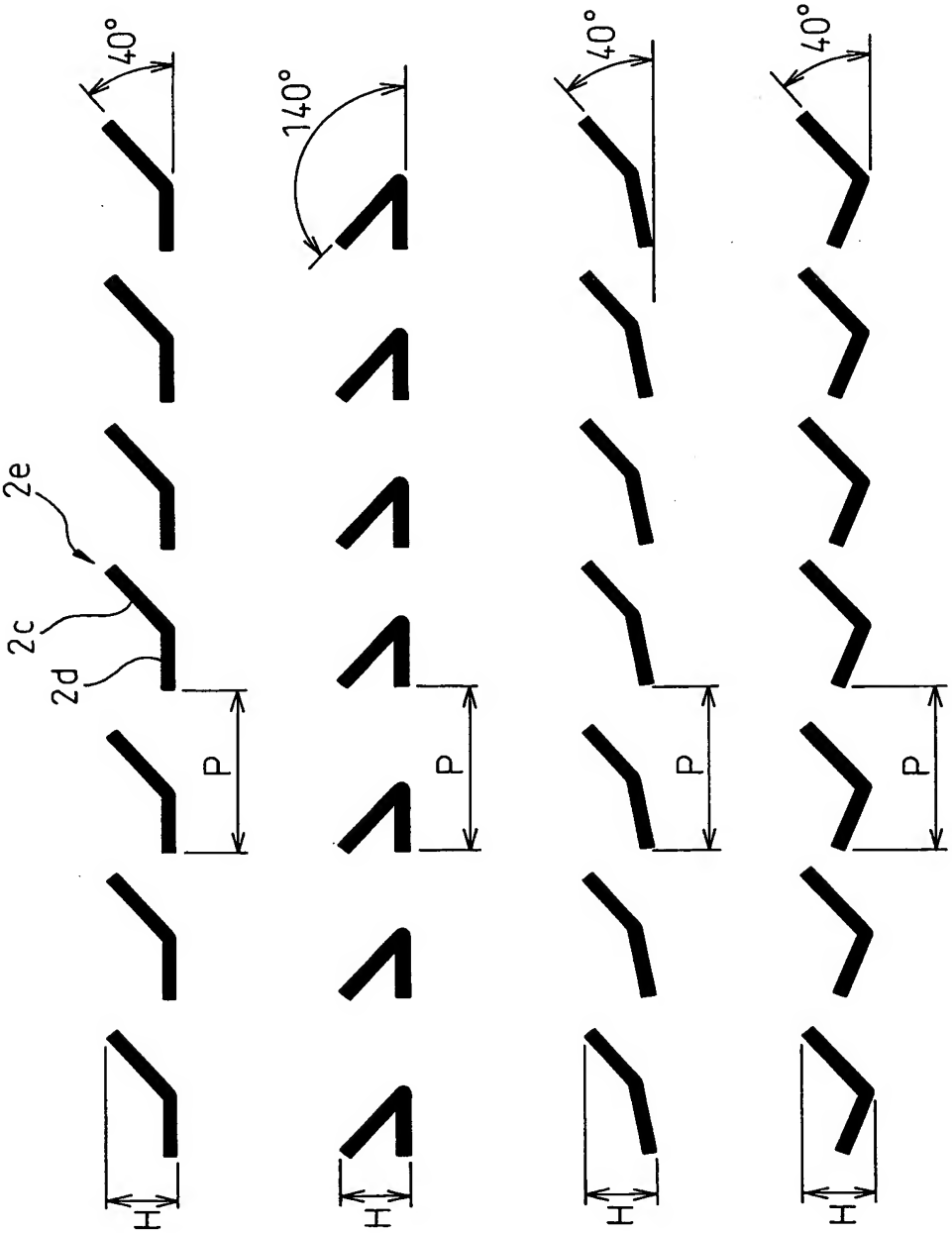


Fig.14A

Fig.14B

Fig.14C

Fig.14D

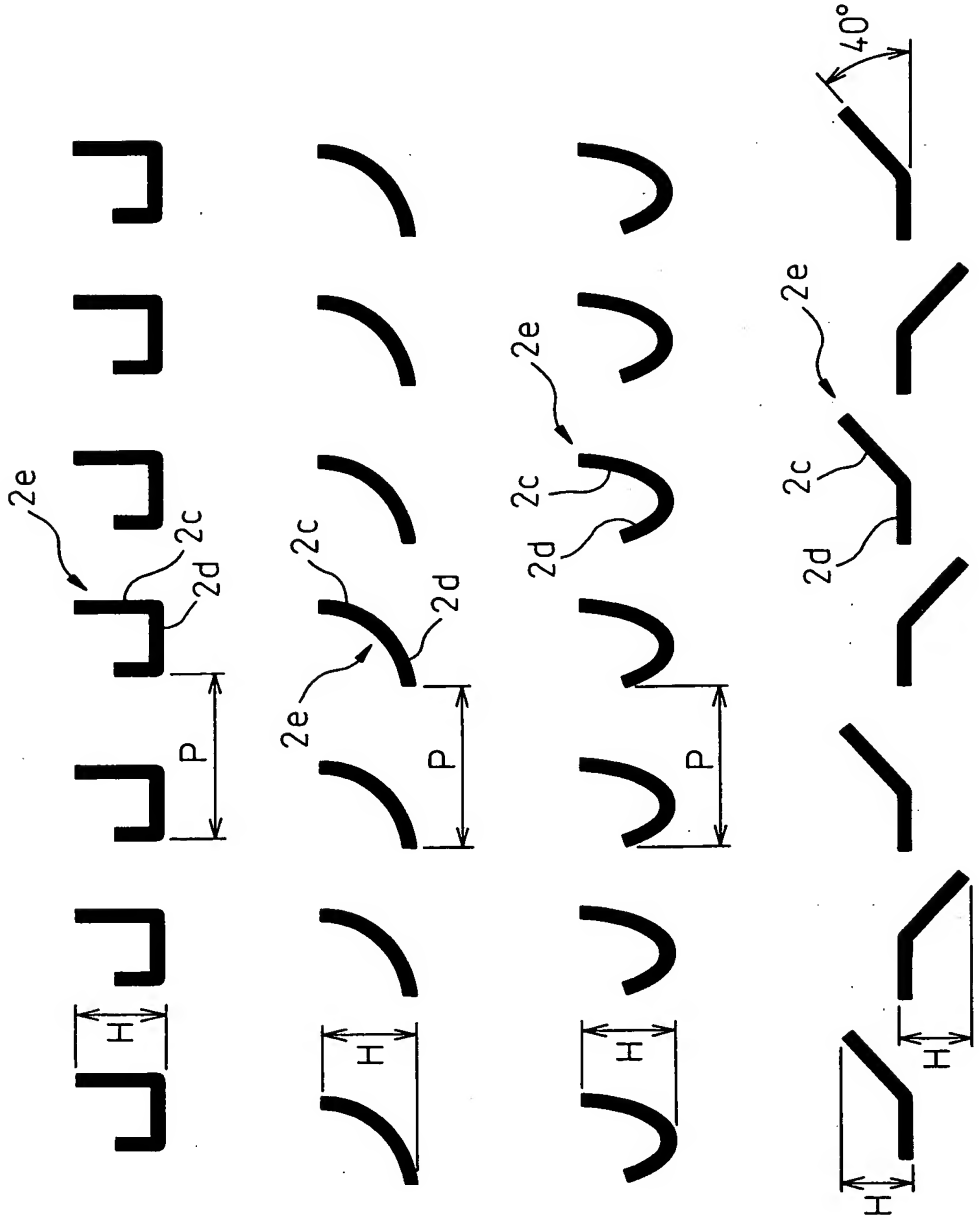


Fig.15A

Fig.15B

Fig.15C

Fig.15D

Fig.16

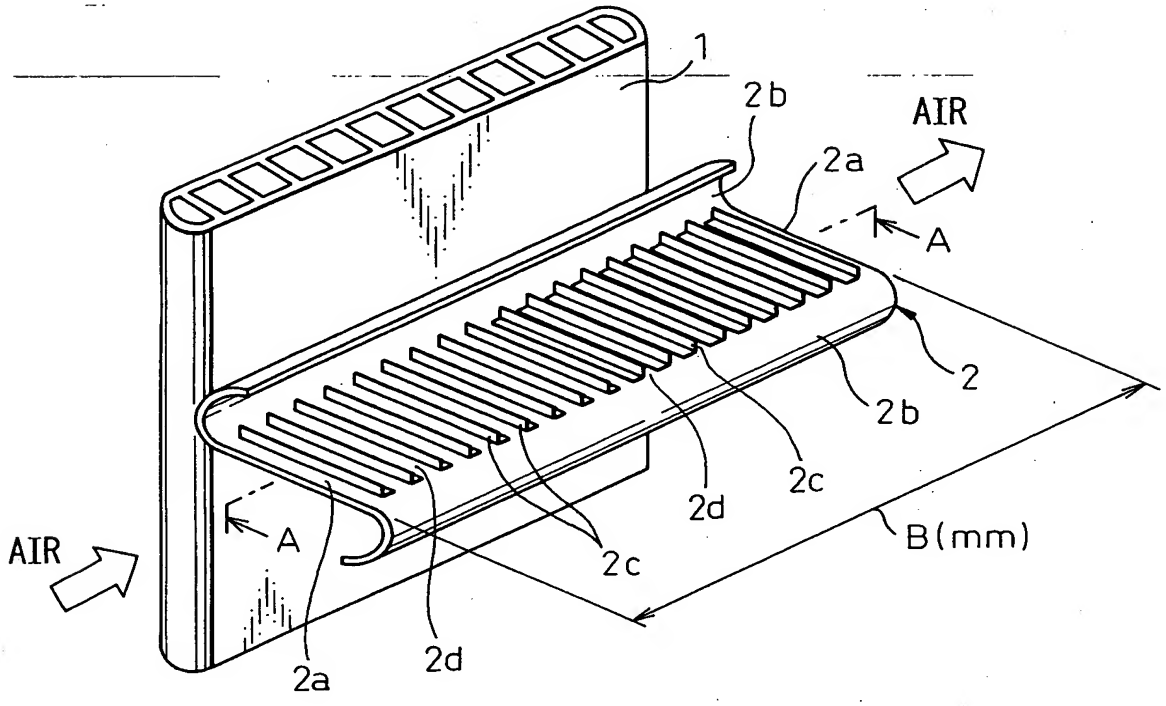
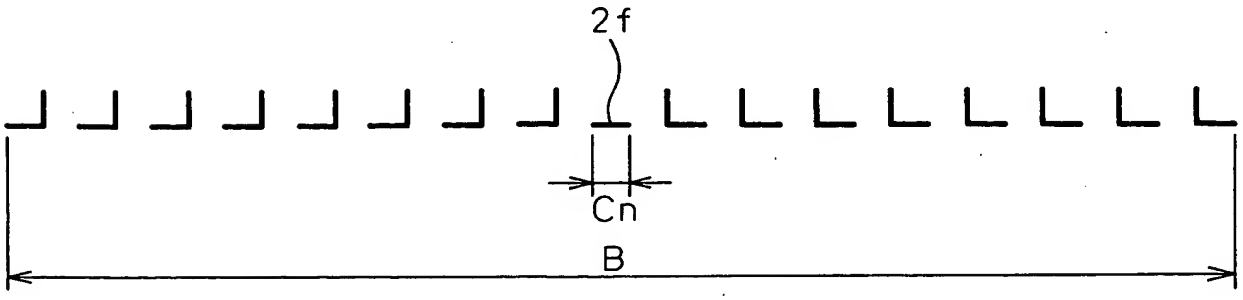


Fig.17



$5mm < B \leqq 25mm$ AND $Cn < 1mm$

Fig.18

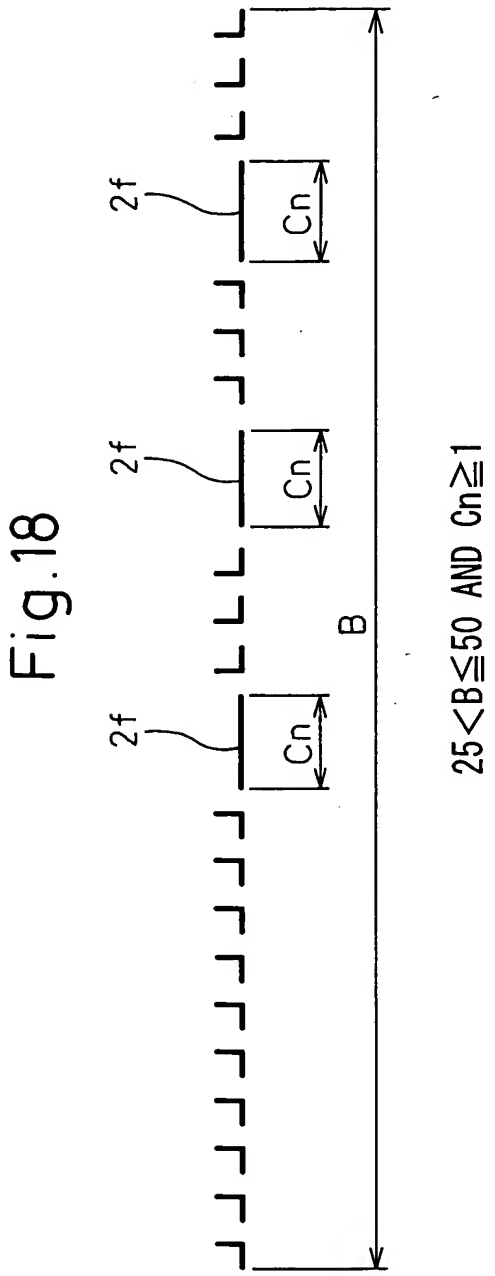


Fig.19

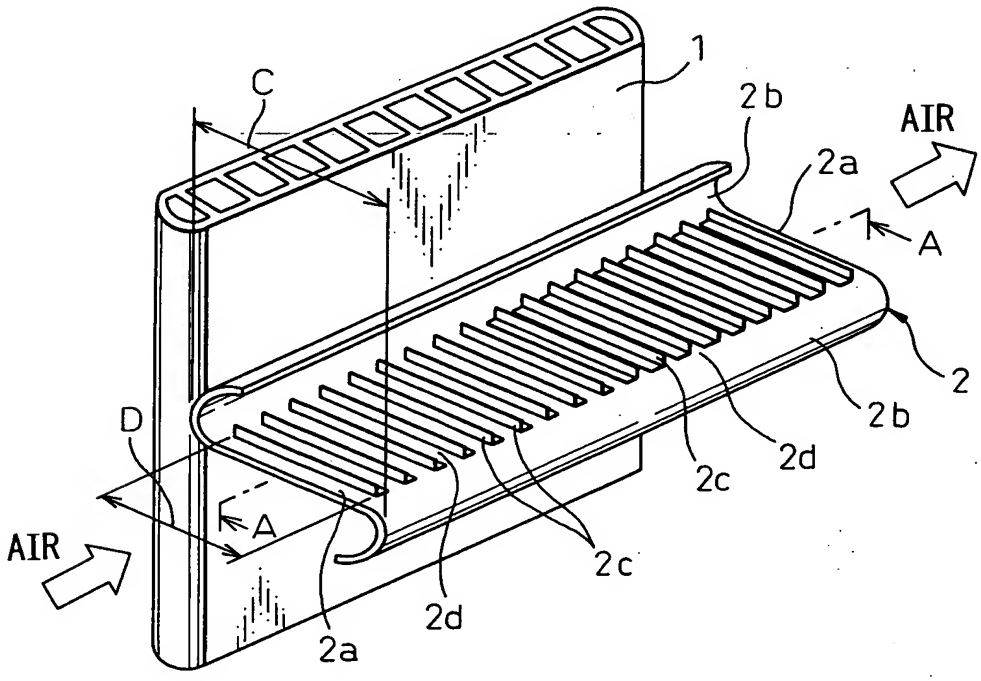
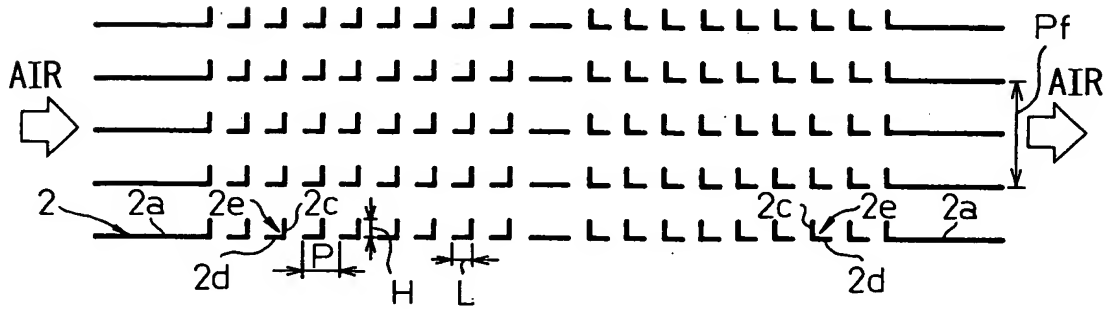
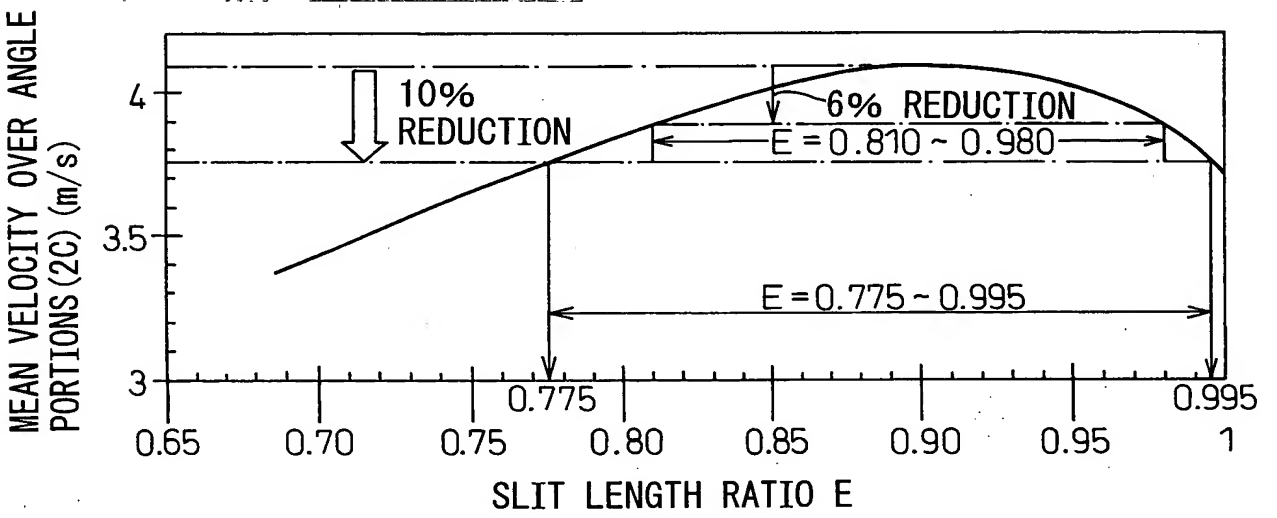


Fig.20



A-A SECTION

Fig.21



SLIT LENGTH RATIO(E)=ANGLE PORTION LENGTH(D)/FIN LENGTH(C)

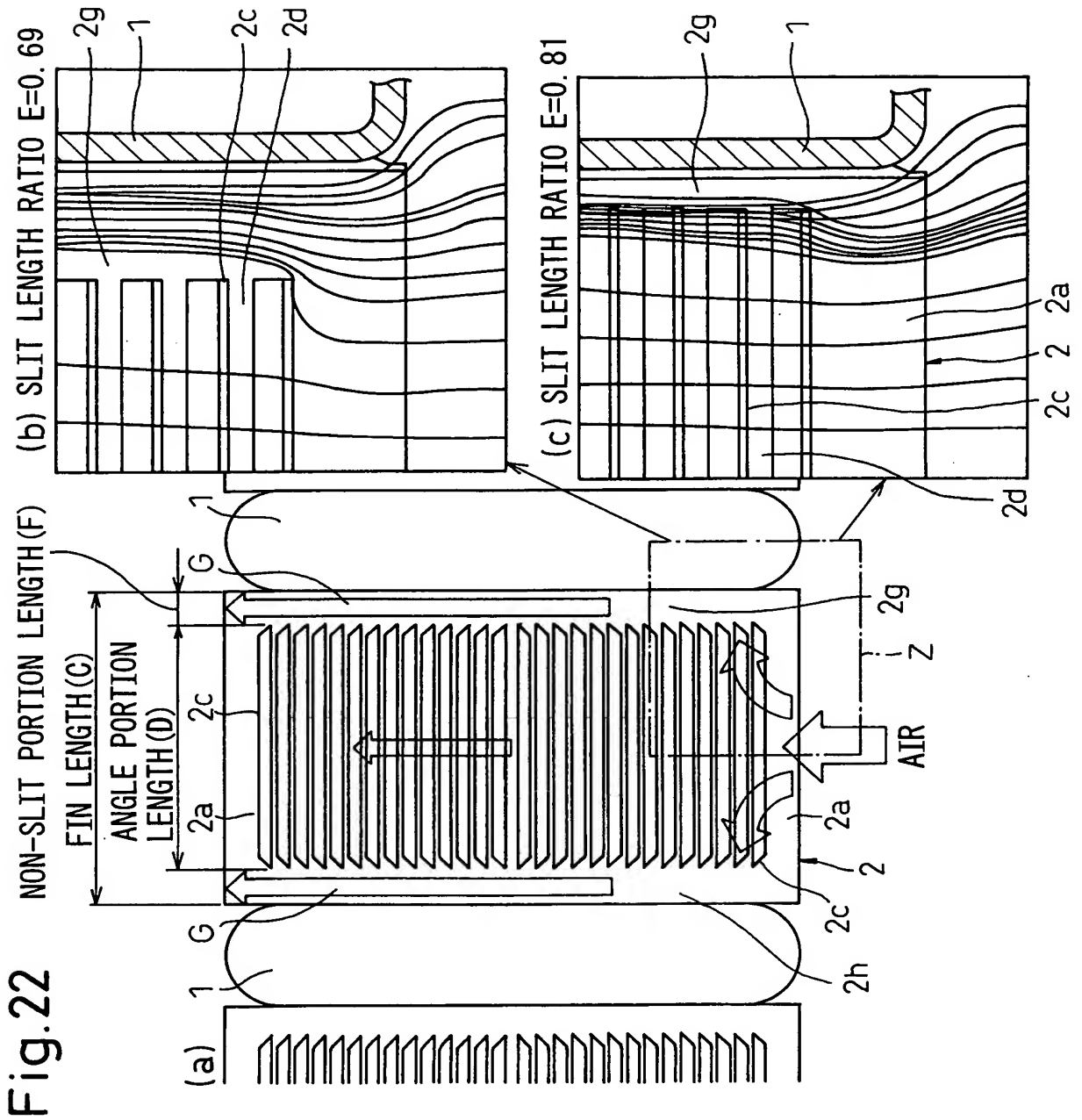

(b) SLIT LENGTH RATIO E=0.69
(c) SLIT LENGTH RATIO E=0.81
2g
1
2c
2d
2a
2
NON-SLIT PORTION LENGTH(F)
FIN LENGTH(C)
ANGLE PORTION LENGTH(D)
G
AIR
Z
2h
(a)

Fig.22

Fig.23A

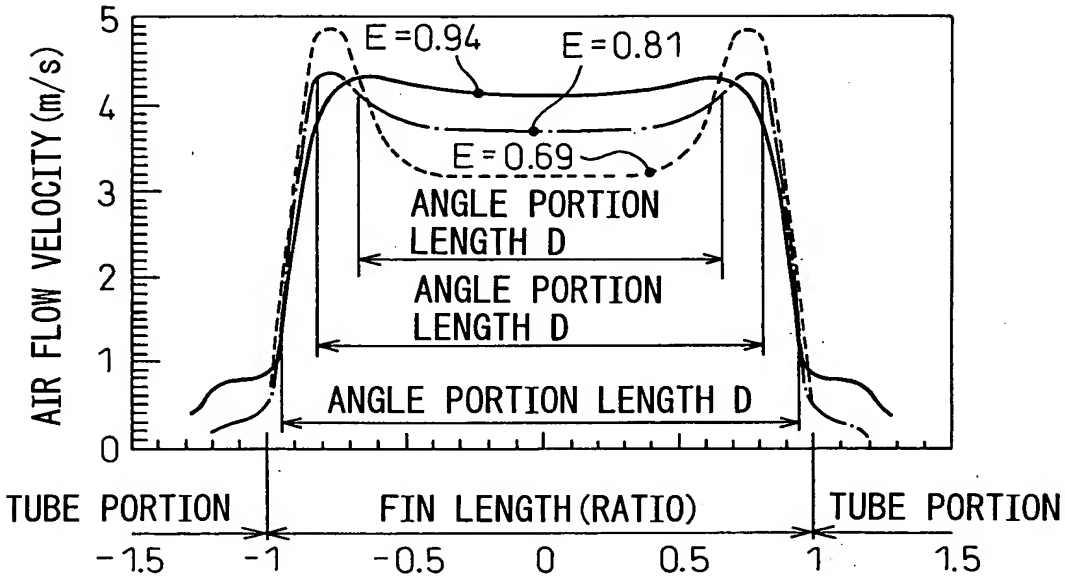


Fig.23B

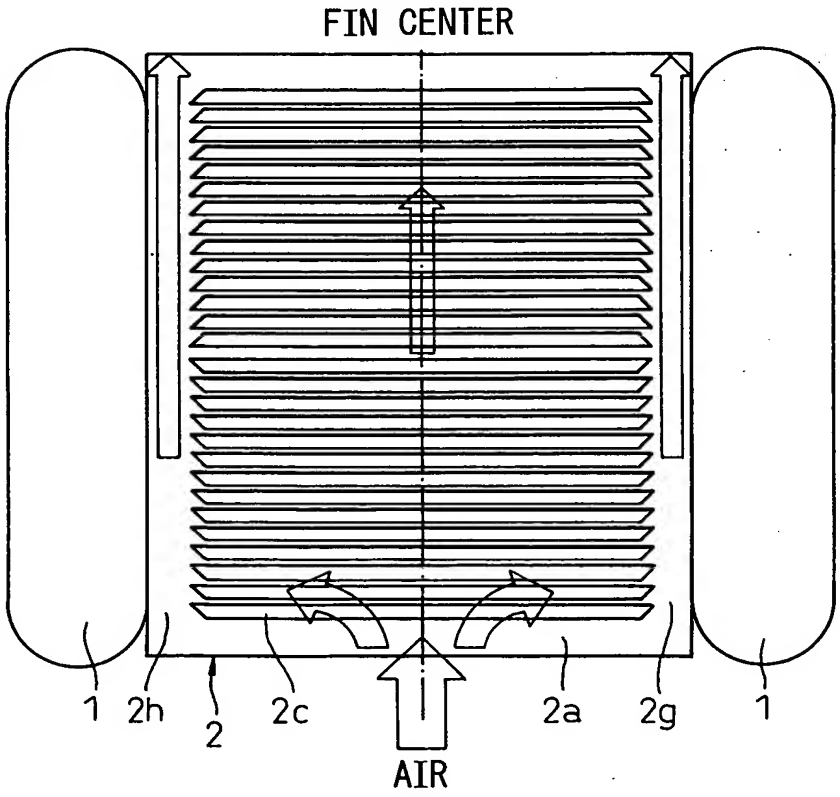


Fig.24

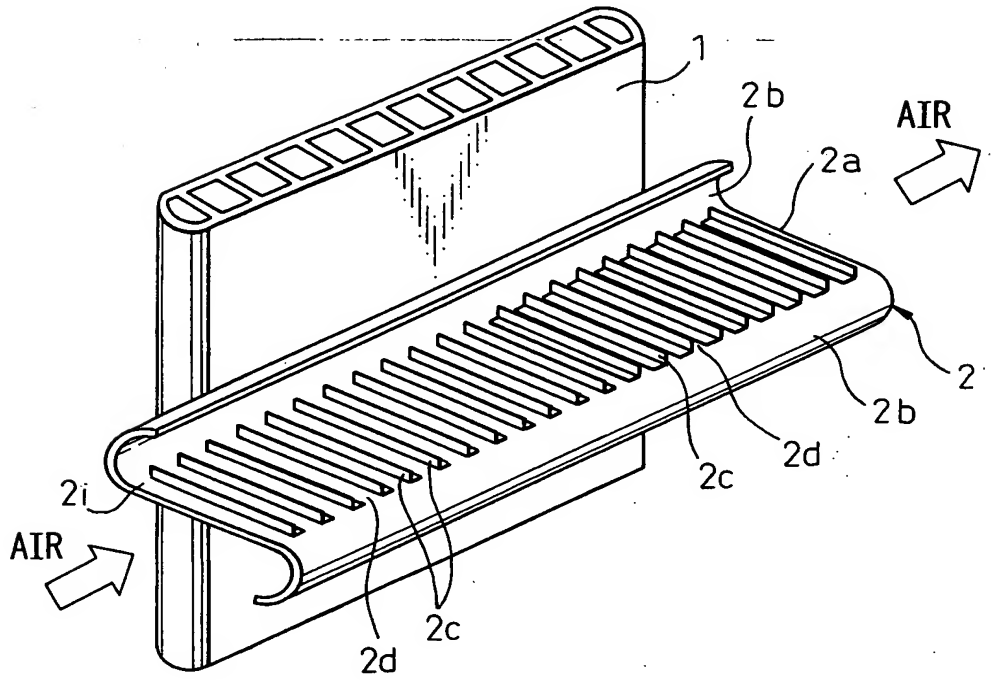
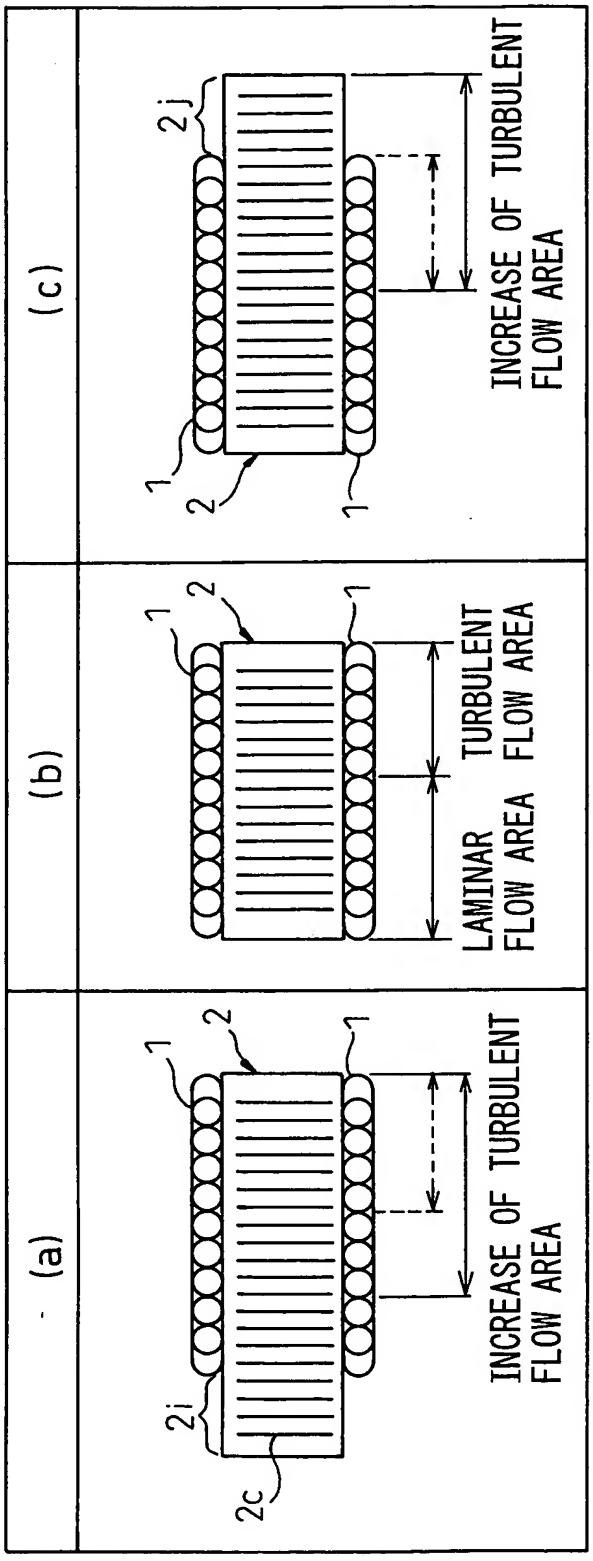


Fig.25


(a)
(b)
(c)
1
2
2i
2c
2j
INCREASE OF TURBULENT FLOW AREA
LAMINAR FLOW AREA
TURBULENT FLOW AREA